

Electrical Surface Conductivity of Glass Fibers, by  
W. Hinz, 18 p.  
13

GERMAN, per, Glastech Ber, 1958, Vol. XXXI, No 11,  
pp 422-428.

AT&T-36L350

Sci  
Apr 60  
Vol III, No 2

113,569

Löffler, Johannes.

RAPID METHOD FOR THE DIFFERENTIATION OF  
WALL AND BATCH STRIAE (Schnellmethode zur  
Unterscheidung von Wand- und Gemengeschlieren).  
[1962] [11]p. (foreign text included) 6 refs.  
Order from SLA \$1.60

62-14867

62-14867

Löffler, J.

Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1958, v. 31, no. 11, p. 428-431.

DESCRIPTORS: \*Glass, Stratification, Interference,  
Analysis, Refractory materials.

Striae due to the batch usually occupy a large space  
within the glass and have a gradual transition to the  
chemical composition from striated glass to normal  
glass. Striae due to the refractory walls usually occupy  
only a very small portion of the glass and have a very  
sudden transition from striae to normal glass. On  
(Materials--Ceramics, TT, v. 9, no. 2) (over)

Office of Technical Services

<p>Jebseen-Marwedel, Hans. TWO LAYER GLAZES IN CERAMICS AND ENAMELING AS ANALOGUES TO MATERIAL INTERCHANGE PROCESSES AT THE SURFACES OF INHOMOGENEOUS GLASS MELTS [Keramische und Emailtechnische Zweischichtglasuren als Analogon zu Substanzwechselvorgängen an der Oberfläche inhomogener Glasschmelzen]. [1960] [25 p., 15 refs. Order from SLA mif\$2.70, ph\$4.80 61-10507 Trans. of Glastechgläser Berichte (West Germany) 1958, v. 31, no. 11, p. 431-436.]</p> <p>It is shown that surface energy processes which take place at the surfaces of glass melts greatly affect the material interchange. They occur in an analogous way in ceramic two layer glazes, and in enameling, and thus afford an explanation for certain decorative effects as well as for the troublesome effect of a gas phase in the form of bubbles within the glaze or enamel layers. The analogy of the two fields affords (Materials--Ceramics, TT, v. 3, no. 8) (over)</p>	<p>61-10507 1. Glass--Melting 2. Glass--Surface tension I. Jebseen-Marwedel, H.</p> <p>151445</p> <p>Office of Technical Services</p>	
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(Materials--Ceramics, II, v. 9, no. 5)

Scholze, Horst.  
THE INCORPORATION OF WATER IN GLASSES.  
III. INFRARED MEASUREMENTS OF OTHER GLASSES.  
[1962] 6p. (2 figs. omitted) 7 refs.  
Order from: SLA \$1.10

62-14247

I. Scholze, H.  
II. Title: Infrared...

Trans. of Glastechische Berichte (West Germany)  
1959, v. 32, no. 7, p. 278-281.

DESCRIPTORS: \*Glass, \*Infrared spectroscopy, Water,  
Silicates, Fluorine, \*Silica-free glass, Borax, Pro-  
duction, \*Ceramic materials.

62-14247

Office of Technical Services

(Materials--Ceramics, II, v. 9, no. 5)

<p>Wille, R. AIR COOLING OF GLASS MOLDS (Luftkühlung von Glastöpfen). [1962] [27]p. (foreign text included) 9 refs. Order from SLA \$2.60</p> <p>62-16410</p> <p>Trans. of Glastechnische Berichte (West Germany) 1959, v. 32K, p. II/26-II/32.</p> <p>DESCRIPTORS: *Glass, Molding, Heat transfer, Air cooled, Cooling.</p> <p>The report summarizes experiments dealing with the transfer of heat from the outside wall of a glass mould to the cooling air. The experiments were performed with stationary, heated models corresponding to average working moulds in dimensions, heat loading and temperatures. The cooling air energy was studied for smooth moulds and circular jets by varying the quantity of air and the jet velocity. In addition to (Materials--Ceramics, TT, v. 8, no. 7) (over)</p>	<p>62-16410</p> <p>I. Wille, R. II. Title: International Congress on Glass (no. 5) III. Title: Internationaler Glaskongress (no. 5)</p> <p>Office of Technical Services</p>
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Laethem, R. van, Leger, L. and others.  
MEASUREMENT OF THE RADIATION OF GLASS  
USING THE BOLOMETER: APPLICATION TO THE  
MEASUREMENT OF THE TEMPERATURE (Measure  
de la Radiation du Verre par Bolometre; Application a  
la Mesure de Temperature). [1962] [54p. (foreign  
text included) 4 refs.  
Order from SLA \$5.60

62-16411

62-16411

- I. Laethem, R. van
- II. Leger, L.
- III. Title: Application . . .
- IV. Title: International  
Congress on Glass (no. 5)
- V. Title: Internationaler  
Glaskongress (no. 5)

Trans. of Glautechnische Berichte (West Germany)  
1959, v. 32K, p. II/36-II/49.

DESCRIPTORS: \*Glass, Temperature, Heat transfer,  
\*Infrared radiation, Infrared detectors, \*Bolometers,  
Pyrometers, Furnaces.

The temperature distribution in glass circulating in a  
tank is very variable. It often happens that the tem-  
perature at the surface is lower than that at a certain  
depth. If the optical arrangement of the bolometer is  
(Material--Ceramics, TT, v. 8, no. 7) (over)

Office of Technical Services

Flörke, Otto W.

ON SILICIC ACID CRYSTALS IN GLASS (Über  
Kiesel säurekristalle in Gläsern). [1962] [31 p. (foreign  
text included) 26 refs.  
Order from SLA \$3.60

62-14886

I. Flörke, O. W.

Trans. of Glastechnische Berichte (West Germany) 1959,  
v. 32, no. 1, p. 1-9.

DESCRIPTORS: \*Glass, \*Silicic acids, Silicates,  
Crystallization, Crystal structure, Quartz, Phase  
transitions, Microstructure.

After an introductory discussion of the phase diagram  
of silicic acid, the different technically important crys-  
tal types of SiO<sub>2</sub> are defined; furthermore a survey of  
the growth of crystals and crystal skeleton is given.  
Following this the different crystal types are discussed  
in the varying forms in which they appear in glass:  
(Materials--Ceramics, TT, v. 9, no. 3) (over)

Office of Technical Services

Hegemann, Frederick, Schmidt, Wolfgang, and  
Hert, Walter.

ON THE EFFECT OF FOREIGN IONS ON THE  
FLAME-SPECTROMETRIC DETERMINATION OF  
SODIUM AND POTASSIUM IN GLASS ANALYSIS.  
[1960] [19]p. 7 refs.

Order from SLA m\$2.40, ph\$3.30 61-10508

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32, no. 1, p. 15-19.

Research on the disturbing influence of Al, Fe, Mg  
and Li, on the flame spectrometric determination of  
Na and K show that K determination is especially  
sensitive to Al and Fe. On increasing the solution  
concentration, while keeping however the ratio of  
alkali to foreign elements constant, the disturbance  
increases. The influence on the Na and K determina-  
tion of Fe and Li can to a large extent be reduced  
through the addition of BaCl<sub>2</sub> to the standard and test  
solutions. The disturbing influence of Al can be  
(Materials--Ceramics, TT, v. 5, no. 8) (over)

61-10508

1. Glass--Analysis
  2. Sodium--Determination
  3. Potassium--Determination
  4. Hydrogen Ions--Chemical  
effects
- I. Hegemann, F.  
II. Schmidt, W.  
III. Hert, W.

151446

Office of Technical Services

Kessler, W. and Scheibe, G.  
SPECTRUM ANALYSIS METHODS, THEIR ACCURACY  
AND THEIR APPLICATION TO GLASS. 1 Apr 60, 16p.  
(8 figs. omitted) 27 refs.  
Order from SLA \$1.60

62-14250

Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1959, v. 32K, p. 1/33-1/40.

DESCRIPTORS: \*Glass, Spectrographic analysis,  
Aluminum compounds, Iron compounds, Oxides, Sheets,  
Electrodes, Errors, X-rays, Fluorescence, Optics.

After an historical review of emission spectrography  
the general basis of this analytical method is discussed.  
The various sources of error are then described, and it  
is shown how these can be eliminated by applying suitable  
principles of measurement. It has been found that  
the main source of error in applying this method to the  
(Materials--Ceramics, TT, v. 9, no. 5) (over)

62-14250

- I. Kessler, W
- II. Scheibe, G.
- III. Title: International Congress on Glass (no. 5)
- IV. Title: Internationale Glaskongress (no. 5)

Office of Technical Services

Bonjakovic, Franz.

THE SIGNIFICANCE OF THE SECOND AXIOM OF  
THERMODYNAMICS FOR THE HEAT BALANCE  
OF FURNACES. [1960] [23]p. 6 refs.  
Order from S.A. mil\$2.70, pb\$4.80 61-10514

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32, no. 2, p. 47-47.

61-10514

1. Furnaces--Heating
2. Thermodynamics
1. Bonjakovic, F.

151451

Office of Technical Services

(Physics--Thermodynamics, TT, v. 5, no. 8)

Geffcken, W. and Neuroth, N.  
HEAT EFFECTS IN GLASS WITHIN THE TRANS-  
FORMATION RANGE. 24 Feb 60, 9p. (11 figs. omitted)  
(5 refs.)  
Order from SLA \$1.10 62-14251  
Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1959, v. 32K, p. V/48-V 53.

DESCRIPTORS: \*Glass, \*Transformations, Transition  
temperature, Heat transfer, Thermal conductivity,  
Thermodynamics.

(Materials--Ceramics, TT, v. 9, no. 5)

62-14251

- I. Title: Kirchhoff law
- II. Geffcken, W.
- III. Neuroth, N.
- IV. Title: International Congress on Glass (no. 5)
- V. Title: Internationaler Glaskongress (no. 5)

Office of Technical Services

Buss, Wilhelm and Reumuth, Horst. PROGRESS MADE IN THE MICROSCOPIC RESEARCH ON GLASS SMELTING PROCESSES AT TEMPER- ATURES UP TO 1,600°C (Fortschritte in der Mikroskopischen Erforschung von Glasschmelz- vorgängen bei Temperaturen bis 1600°C). [1960] [28 p. 5 refs. Order from SLA mi\$2.70, ph\$4.80	61-10512 1. Glass--Phase studies 2. Phase microscopy-- Applications 3. High temperature research I. Buss, W. II. Reumuth, H.
Trans. of <u>Glastech(nische) Ber(lche)</u> (West Germany) 1959, v. 32, no. 3, p. 89-90.  j51449  Chem Trans Sv 2693   (Materials--Ceramics, TT, v. 5, no. 6)	Office of Technical Services

Tagged Tank Blocks for the Detection of Tank  
Material in Glass, by W. Jahn.

GERMAN, per, Glastechnische Berichte, Vol XXII,  
No 3, 1959, pp 103-106.

AT&T 60N55G

Sci

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Vol VII, No 2

<p>Scholze, H. THE TRANSMISSION OF GLASSES IN THE NEAR INFRARED AT TEMPERATURES UP TO FREEZING POINT (Die Durchlässigkeit von Gläsern in Nahern Ultrarot bei Temperaturen bis zum Einfrierbereich). [1962] [15]p. (foreign text included) 17 refs. Order from SLA \$1.60</p> <p>62-16142</p> <p>Trans. of Glastechnische Berichte (West Germany) 1959, v. 32K, p. VII/1-VII/5.</p> <p>DESCRIPTORS: *Glass, Optics, Transmission, Infra-red radiation, *Infrared spectroscopy, *Temperature, Hydroxides, Silicon compounds.</p> <p>The transmission of glasses in the near infra-red depends on the bands at <math>2.7 - 2.9 \mu</math> due to free OH-groups, and of bands at <math>3.3 - 3.9 \mu</math> and <math>4.25 \mu</math> due to bound OH-groups. The intensity of radiation in these bands decreases with rising temperature. Whereas (Materials--Ceramics, TT, v. 8, no. 7) (over)</p>	<p>62-16142</p> <p>I. Scholze, H. II. Title: International Congress on Glass (no. 5) III. Title: Internationaler G Glaskongress (no. 5)</p> <p>Office of Technical Services</p>
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Grollier-Baron, Th. and Gardiol, M. THE USE OF MICROSCOPIC EXAMINATION UNDER REFLECTED LIGHT IN THE STUDY OF ELECTRO- CAST REFRCTORIES [L'Utilisation de l'Examen Microscopique en Lumière Réfléchie pour l'Etude des Réfractaires Electrofondus]. [1960] [13]p. (Eng. ab- stract omitted). Order from SLA m\$2.40, ph\$3.30      61-10517  Trans. of Glastechnische Berichte (West Germany) 1959, v. 32x, no. IV, p. 7-11.  151452	61-10517  I. Refractory materials-- Microstructure II. Refractory materials-- Casting III. Grollier-Baron, T. IV. Gardiol, M. V. Title: International Congress on Glass (no. 5)	
(Materials--Refractories. TT, v. 5, no. 8)		Office of Technical Services

Trier, W.  
VISCOSITY DISTRIBUTION AND FLOW OF GLASS IN  
PREFORMERS. [1962] 33p. 20 refs.  
Order from SLA \$3.60

62-14252

Trans. of Clastechn[ische] Ber[ichte] (West Germany)  
1959, v. 32K, p. II/17-II/25.

DESCRIPTORS: \*Glass, \*Viscosity, Distribution,  
Molding, Bubbles, Deformation, Cooling, Configuration,  
Liquids, Solids, Melting, Drawing (Machine processing),  
Production, Compressed air, Blowers, \*Ceramic  
materials.

An apparatus for measuring the viscosity distribution  
in the glass in a preformer is described. A fine steel  
needle forced through the glass leaves behind a fine  
bubble trace of well-defined shape in the glass. The  
viscosity distribution can be derived from the deforma-  
(Materials--Ceramics, TT, v. 9, no. 5) (over)

62-14252

- I. Trier, W.
- II. Title: International  
Congress on Glass (no. 5)
- III. Title: Internationaler  
Glaskongress (no. 5)

Office of Technical Services

<p>Patel, M. Raymond. CONTRIBUTION TO THE DETERMINATION OF COEFFICIENTS OF SIMILITUDE OF MODELS OF GLASS FURNACES, FOR STUDYING CURRENTS IN GLASS. [1950] 12p. (Eng. abstract omitted) 6 refs. Order from SLA m\$2.40, ph\$3.30 61-10515  Trans. of Glaserische Berichte (West Germany) [1959] v. 32K, no. IV, p. 30-34.</p> <p>15/436</p> <p>(Materials--Ceramics, TT, v. 5, no. 8)</p>	<p>61-10515</p> <p>I. Furnaces--Model test results</p> <p>II. Glass--Melting</p> <p>I. Patel, M. R.</p> <p>II. Title: International Congress on Glass (no. 5).</p> <p>Office of Technical Services</p>	
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Léger, L. DIMENSIONAL ANALYSIS AND ITS APPLICATION TO PROBLEMS OF GLASS TECHNOLOGY (L'Analyse Dimensionnelle (Application à des Problèmes de Technologie Verrière)). [1960] [35]p. 8 refs. Order from SLA m183.00, ph46.30 61-10516	61-10516	
Trans. of Glastechnische Berichte (West Germany) 1959, v. 32(1), no. IV, p. 34-37.	j 51437	
(Materials--Ceramics, TT, v. 5, no. 8)	Office of Technical Services	

Investigation and Appraisal of Glass Melting  
Tanks on the Basis of Energy Balances, by  
F. Huhmann-Kotz, 6 pp.

GERMAN, per, Glastechnische Berichte,  
Vol XXXII, 1959, pp 47-53.

CSIRO

Sci - Phys  
Nov 61

174,381

Merker, Ludwig and Wondratschek, Hans.  
SOME PHYSICAL PROPERTIES OF LEAD SILICATE  
GLASSES WITH A HIGH SULFATE CONTENT  
(Einige Physikalische Eigenschaften von Bleisilikat-  
Gläsern mit Hohem Sulfatgehalt). [1962] [17]p. (for-  
eign text included) 12 refs.

Order from SLA \$1.60

62-16138

Trans. of Glastechn[ische] Berichte (West Germany)  
1959, v. 32, no. 2, p. 54-58.

DESCRIPTORS: \*Glass, \*Lead compounds, \*Sili-  
cates, \*Sulfates, Chemical analysis, Physical prop-  
erties, Production.

The density, thermal expansion, transformation  
point, and softening temperature, surface tension and  
refraction of light are measured on lead silicate  
glasses with a high sulfate content and compared with  
(Materials--Ceramics, TT, v. 8, no. 6) (over)

62-16138

I. Merker, L.  
II. Wondratschek, H.

Office of Technical Services

<p>Gaillbaud, J. HEAT BALANCE OF A GLASS-MELTING FURNACE AND RECENT DEVELOPMENTS (Bilan Thermique d'un Four de Verrerie et Développements Récents). [1962] [21]p. (foreign text included) 10 refs. Order from SLA \$1.60                    62-10931  Trans. of Glastechn[ische] Ber[ichte] (West Germany) 1959, v. 32K, p. II/49-II/53.  DESCRIPTORS: *Glass, *Melting, *Heat transfer, Design, Fuel consumption, Economics, Heat exchangers</p>	<p>62-10931</p> <p>I. Title: Tank furnaces I. Gaillbaud, J. II. Title: International Congress on Glass (no. 5) III. Title: Internationaler Glaskongress (no. 5)</p>	
(Materials--Ceramics, TT, v. 9, no. 1)	Office of Technical Services	

Malarme, Louis.

SODIUM CARBONATE HYDRATION PHENOMENA  
INSIDE THE BATCH: HOW TO AVOID SEGREGATION  
OF THE CONSTITUENTS (Recherches sur les Phenom-  
enes d'Hydratation du Carbonate de Soude au Sein de  
la Composition, en Vue d'Eviter la Segregation de ses  
Constituants). [1962] [54]p. (foreign text included)  
8 refs.

Order from SLA \$6.60

62-14506

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32K, p. II/57-II/73.

DESCRIPTORS: \*Sodium compounds, \*Carbonates,  
\*Glass, Manufacturing methods, Liquids, Mixtures,  
Solubility, Sand, Dolomite, Calcite, Feldspar, Sulfates,  
Particles, Moisture, Transformations.

(Materials--Ceramics, IT, v. 8, no. 3)

62-14506

- I. Malarme, L.
- II. Title: How . . .
- III. Title: International  
Congress on Glass (no. 5)
- IV. Title: Internationaler  
Glaskongress (no. 5)

Office of Technical Services

Tagged Tank Blocks for the Detection of Tank  
Material in Glass, by W. Jahn.

GERMAN, per, Glastechnische Berichte, Vol XXXII,  
No 3, 1959, pp 103-106.

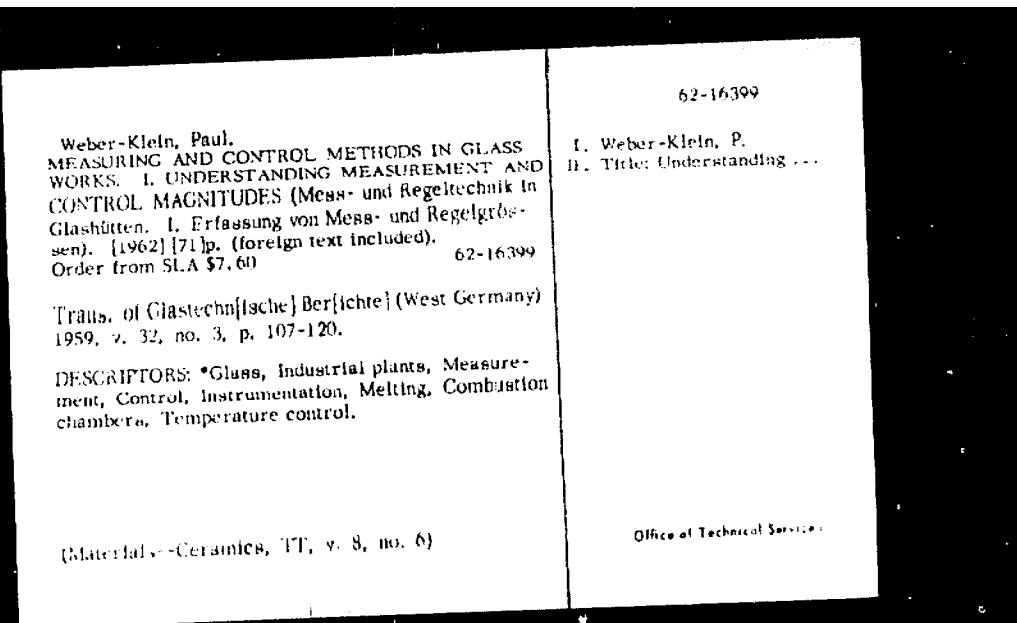
ATB-60N550

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189,532

Mar 62

Vol VII, No 2



<p>Unger, Leopold. DETERMINATION OF THE HEAT CONTENT AND THE AVERAGE TEMPERATURE OF BOTTLES DURING THE SHAPING PROCESS (Bestimmung des Wärmeinhaltes und der Mittleren Temperatur von Flaschen während des Formgebungsprozesses). (1960) [20]p. 4 refs. Order from SLA m\$2.40, pH\$3.30</p> <p>Trans. of Glastechn[ische] Berichte (West Germany) 1959, v. 32, no. 4 [p. 153-157].</p> <p>A calorimeter was developed which permits to determine the heat content of the glass to be processed, and meets the more rugged operational conditions without having to incur an important loss in precision. Measurements were made with the calorimeter at various types of glass and various machines. It was found that the escape of heat in the preliminary shape is almost the same with all types of machines, whereas the release of heat in the finished shape is</p> <p>(Materials--Ceramics, TT, v. 5, no. 8) (over)</p>	<p>61-10504</p> <p>1. Glass--Temperature 1. Unger, L.</p> <p>151443</p>	
Office of Technical Services		

<p>Weber-Klein, Paul. MEASURING AND CONTROL METHODS IN GLASS WORKS. II. MEASURING AND CONTROL DEVICES (Meas- und Regelungstechnik in Glashütten. II. Geräte zur Messung und Regelung). [1962] [74]p. (foreign text included) 80 refs. Order from SLA \$7.60</p> <p>Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 4, p. 158-172.</p> <p>DESCRIPTORS: *Glass, Industrial plants, Measurement, Control, Instrumentation, Melting, Temperature control, Combustion chambers.</p> <p>(Materials--Ceramics, TT, v. 8, no. 6)</p>	<p>62-16398</p> <p>I. Weber-Klein, P. II. Title: Measuring ...</p> <p>62-16398</p> <p>Office of Technical Services</p>
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Gilard, P. and Gilboux, G.  
RELATIONSHIP BETWEEN THE VARIOUS TEXTURES  
OF FUSED-CAST REFRactories AND THEIR  
RESISTANCE TO ATTACK BY GLASS [Relation entre  
Différentes Textures d'un Bloc Refractaire Electrofondu  
et la Resistance à la Corrosion par le Verre]. [1960]  
[16]p. (Eng. abstract omitted) 10 refs.  
Order from SLA mi\$2.40, ph\$3.30 61-10519

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32K, no. IV, p. 1-7.

(Unannounced)

61-10519

1. Refractory materials--  
Casting
2. Glass--Corrosive effects
- I. Gilard, P.
- II. Gilboux, G.
- III. Title: International  
Congress on Glass  
(no. 5)

Bureau of Technical Services

Gottardi, V. and Lichardt, B.  
REACTION RATES AND MECHANISM IN THE SYSTEMS Na<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub> AND Na<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> (Vitesse et Mecanisme de Reaction dans les Systemes Na<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub> et Na<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>). [1960] [20]p. 43 refs.  
Order from SLA m\$2.70, ph\$4.80 61-10518

Trans. of Glazotechnische Berichte (West Germany)  
1959, v. 32K, no. V, p. 8-15.

(Materials--Ceramics, TT, v. 5, no. 9)

151788

61-10518

1. Boron oxides--Chemical reactions
  2. Sodium oxides--Chemical reactions
  3. Silicon dioxide--Chemical reactions
  4. Glass--Phase studies
- I. Gottardi, V.  
II. Lichardt, B.  
III. Title: International Congress on Glass (no. 5)

Office of Technical Services

Dietzel, Adolf and Flörke, Otto W.  
THE ACTION OF SULFATE IN THE MELTING  
PROCESS (Die Wirkung von Sulfat beim Einachmel-  
zvorgang). [1960] [12]p. 12 refs.  
Order from SLA m\$2.40, ph\$3.30 61-10510

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32, no. 5, p. 181-183.

Comparative melts of sulfate-free and sulfate-containing glasses were made. Observations with the thermal microscope showed that the sulfate containing batches began to melt sooner and that the residual quartz grains were more uniformly dispersed than with the corresponding sulfate free batches, in which the sand was concentrated at the melt surface and formed the skin as described in 1914 by Gelsthaar and Parkinson. These phenomena could be readily explained with the help of ideas developed according to which the sulfate prevents flotation of the batch residuals. (Author)(A lecture given at the Symposium on Glass Melting of Materials--Ceramics, TT, v. 3, no. 8) (over)

61-10510

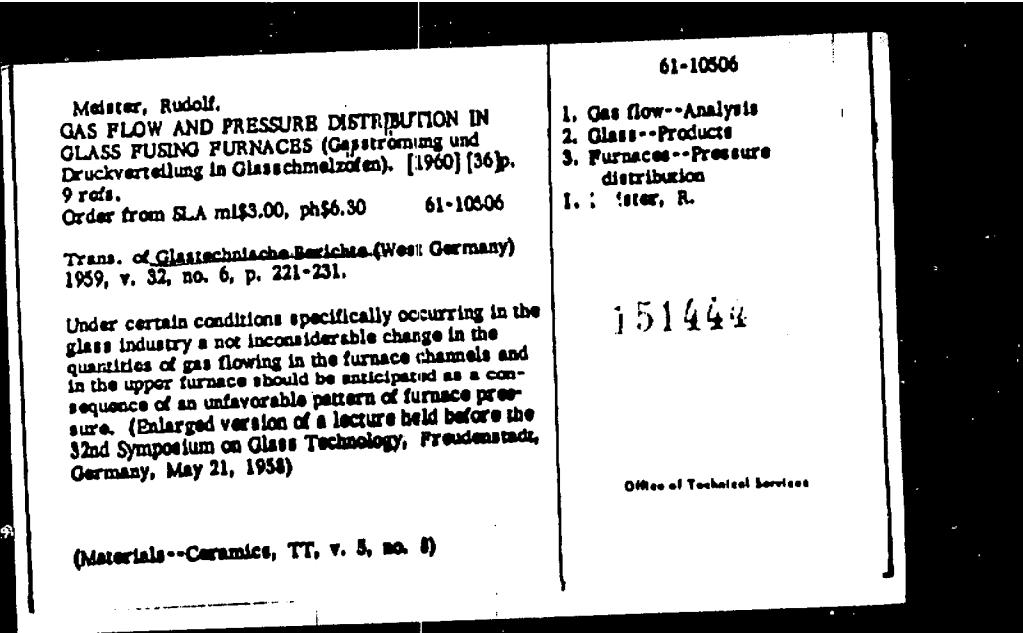
1. Glass--Melting
2. Sulfates--Chemical effects
1. Dietzel, A.
2. Flörke, O. W.

11144

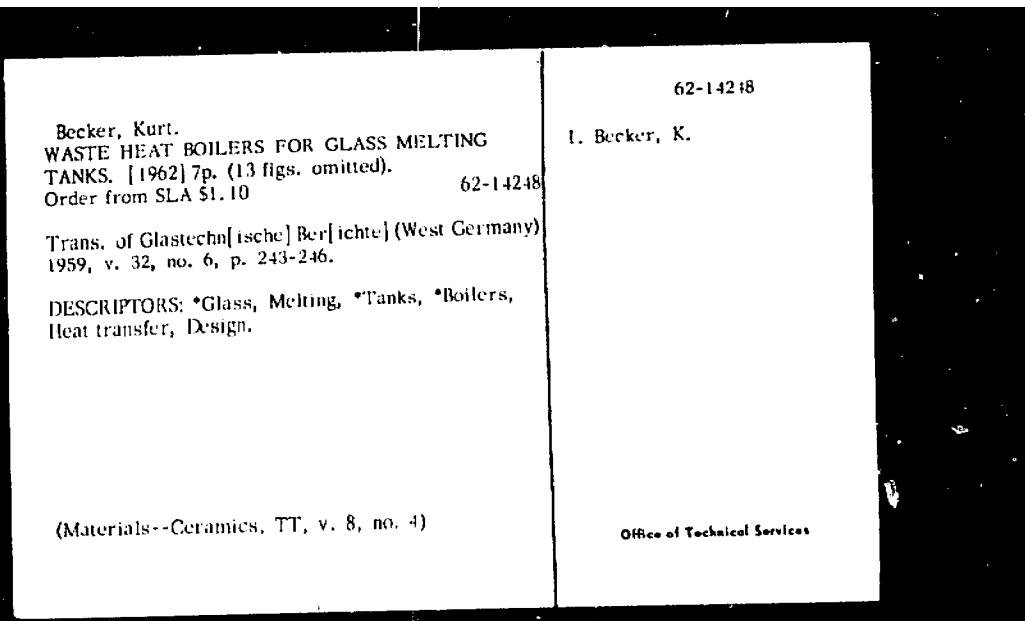
Office of Technical Services

<p>Huhmann-Kotz, Ilse. THE TRANSMISSION OF ENERGY IN GLASS BATCHES. [1962] [18 p. (10 figs. omitted) 15 refs. Order from SLA \$1.60</p> <p>Trans. of Glastechn[ische] Ber[ichte] (West Germany) 1959, v. 32, no. 5, p. 189-197.</p> <p>DESCRIPTORS: *Glass, Thermal conductivity, Thermal radiation, Heat transfer, *Melting, Temperature, Flames, Tanks, Energy, Functions, Transmission, Thermodynamics, Analysis of variance, Production.</p> <p>An introductory survey of the physical processes taking place in the batch is given, and the significance of restricting the investigation to thermal conduction and radiation is discussed. The physical basis of transfer by radiation is discussed in general terms and the most important general results of application to (Materials--Ceramics, TT, v. 9, no. 5) (over)</p>	<p>62-14249</p> <p>I. Huhmann-Kotz, I.</p> <p>62-14249</p> <p>Office of Technical Services</p>	
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<p>Schmidt, Kurt. GLASS TANKS AND THROATS (Wannenbecken und Durchlass von Glasschmelzöfen). Paper presented at HVG Colloquium on Glass Melting Furnaces, Frankfurt a. M., 23 Oct 58. [1962] [17]p. (foreign text included). Order from SLA \$1.60 62-10944</p> <p>Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 6, p. 217-221.</p> <p>DESCRIPTORS: *Glass, *Melting, Tanks, Oil-burning furnaces, Fuel consumption, Operation, Construction.</p> <p>The influence of the length-width ratio, of the bath depth and of the throat construction on the operating behavior of various types of tanks is discussed on the basis of practical experiences. Standard dimensions have been developed in the course of time and proved expedient. Operating data of various tanks and the dimensions of the throats used are given on the basis of several examples. (Author)</p>	<p>62-10944</p> <p>I. Schmidt, K. II. Title: HVG Colloquium ... 62-10944</p> <p>(Materials--Ceramics, TT, v. 8, no. 6) Office of Technical Services</p>
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<p>Greschat, K.-H. HEATING AND HEAT-REGENERATION WITH GLASS MELTING TANKS (Beheizung und Wärmeregeneration bei Glasschmelzwanne). Paper presented at HVG Colloquium on Glass Melting Furnaces, Frankfurt a.M. 23 Oct 58. [1962] [33]p. (foreign text included) 16 refs. Order from SLA \$3.60</p> <p>Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 6, p. 231-239.</p> <p>DESCRIPTORS: *Glass, Melting, *Oil-burning furnaces, Refractory materials, Construction, Fuel oils, Heating, Heat exchangers, Tanks.</p> <p>(Materials--Ceramics, TT, v. 8, no. 6)</p>	<p>62-10932</p> <p>I. Greschat, K.-H. II. Title: HVG Colloquium...</p> <p>62-10932</p> <p>Office of Technical Services</p>
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Wickert, Helmut.  
SPECIAL TYPES OF GLASS MELTING FURNACES.  
[1962] 10p. (9 figs. omitted) 14 refs.  
Order from SLA \$1.10

62-14246

Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1959, v. 32, no. 6, p. 247-251.

DESCRIPTORS: \*Glass, \*Melting, Open hearth furnaces,  
Electric furnaces, Rotary furnaces, Construction,  
Design, Economics, Tanks, Refractory materials.

62-14246  
I. Title: Glass furnaces  
I. Wickert, H.

(Materials--Ceramics, TT, v. 9, no. 5)

Office of Technical Services

Wondratschek, Hans.

A PROCESS FOR THE SIMULTANEOUS DETERMINATION OF VISCOSITY AND SURFACE TENSION IN GLASS AT RELATIVELY LOW TEMPERATURES  
(Ein Verfahren zur Gleichzeitigen Bestimmung von Zähigkeit und Oberflächen Spannung an Gläsern bei Relativ Niedrigen Temperaturen). [1960] [8]p. 2 refs.  
Order from SLA m\$1.80, ph\$1.80 61-10503

Trans. of Glasstechnische Berichte (West Germany)  
1959, v. 32, no. 7, p. 276-278.

The theory is developed for a process described by N. M. Parikh (J. Am. Ceram. Soc., 41: 13-22, 1950) for the determination of the surface tension in glass, and it is shown that the viscosity can be ascertained as an additional result of the measurement. (Author)

(Materials--Ceramics, TT, v. 5, no. 8)

61-10503

1. Glass--Viscosity  
2. Glass--Surface tension  
1. Wondratschek, H.

j 51441

Office of Technical Services

Stevels, J. M.

NETWORK DEFECTS IN CRYSTALLINE AND  
GLASSY SILICA (Netzwerkfehler in Kristallinischem  
und Glasigem SiO<sub>2</sub>). Paper from Glass Technical  
Meeting (no. 33) Hamburg, 18 Mar 59. [1960] [27]p.  
(foreign text included) 20 refs.

Order from SLA m152.70 ph\$4.80 61-10505

Trans. of Glastechnische Berichte (West Germany)  
1959, v. 32, no. 8, p. 307-315.

The combination of dielectric loss measurements at  
low temperatures, optical absorption measurements  
and paramagnetic resonance measurements is de-  
scribed by which it is possible to recognize and  
determine a number of network defects in glasses and  
quartz crystals.

(Materials--Ceramics, TT, v. 5, no. 8)

61-10505

1. Quartz crystals--Crystal  
structure
2. Glass--Crystal structure
3. Stevels, J. M.

151443

Office of Technical Services

Thermo-Chemical Studies in the System  
Na<sub>2</sub>O-SiO<sub>2</sub>. Part I, by C. Hummen, H.  
Schwiete.

GERMAN, per, Glastechnische Berichte,  
Vol XXXII, No 8, 1959, pp 327-335.

CSIRO

Sci - Chem, Engr  
Apr 62

191,427

<p>Dierzel, Adolf and Coenen, Matthias. CONNECTION BETWEEN WETTABILITY BY GLASS MELTS AND ELECTROCHEMICAL PROPERTIES OF THE NOBLE METALS. Paper presented at Glass Technical [meeting] (no. 32) Freudenstadt, 21 May 58. [1960] [18 p. 20 refs. Order from SLA m\$2.40, ph\$3.30 61-10509  Trans. of <i>Glastechnische Berichte</i> (West Germany) 1959, v. 32, no. 9, p. 357-361.  Alloys of beryllium-platinum, gold-platinum and platinum-rhodium were studied. The wettability was measured by taking the angle of contact of molten sodium-lime glass on sheets of platinum alloys. Measurements were made of the anodic overvoltage in 1 N H<sub>2</sub>SO<sub>4</sub>, and the emf as O-electrode. The diffusion of O-atoms appeared as the reason for the connection between wettability and electrochemical properties. (See also 60-16252)</p>	<p>61-10509 1. Electrocchemistry 2. Diffusion--Theory 3. Glass--Temperature factors 4. Platinum alloys-- Temperature factors I. Dierzel, A. II. Coenen, M.</p>	<p>152103 Office of Technical Services</p>
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62-14244

Kröger, Carl and Elsghausen, Hans.  
THE THERMAL CONDUCTIVITY OF THE MELTING  
GLASS BATCH. [1962] 23p. (16 figs. omitted) 16 refs.  
Order from SLA \$2.60 62-14244

Trans. of Glastechnische Berichte (West Germany) 1959,  
v. 32, no. 9, p. 362-373.

DESCRIPTORS: \*Glass, Melting, \*Thermal conductivity,  
Manufacturing methods.

I. Kröger, C.  
II. Elsghausen, H.

(Materials--Ceramics, TT, v. 9, no. 1)

Office of Technical Services

<p>Bhattacharya, A. and Wille, R. INFLUENCE OF NEEDLES ON FREE JET BLAST COOLING OF SHORT CYLINDERS. [1961] 7p. Order from ATS \$9.35                           ATS-68N52G</p> <p>Trans. of Glastech[nische] Ber[ichte] (West Germany) 1959, v. 32, no. 10, p. 397-401.</p> <p>DESCRIPTORS: *Cylindrical bodies, Cooling  (Physics--Thermodynamics, TT, v. 6, no. 6)</p>	<p>61-25033</p> <p>I. Bhattacharya, A. II. Wille, R. III. ATS-68N52G IV. Associated Technical Services, Inc., East Orange, N. J.</p> <p>SUA 62-14245 176704</p> <p>Office of Technical Services</p>	
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<p>Deeg, Emil. CALCULATION OF THE TEMPERATURE DISTRIBUTION IN PARISON MOLD AND GLASS OBJECT IN MACHINES FORMING HOLLOW GLASSWARE (Berechnung der Temperaturverteilung in Vorform und Kulbel bei Hohlglasmaschinen). [1960] [39]p. 25 refs. Order from SLA m\$3.00, ph\$6.30 61-10511  Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 10, p. 402-419.</p> <p>The space-time temperature distribution which appears during the preparation of glass objects in the parison mold and in the glass is mathematically ascertained. It is assumed that a thin heat-insulating layer can form between the hot glass and the inner wall of the mold. The relation is shown between the temperature distribution, the thermal constants of glass and mold and the working conditions prevailing in the preparation of glass objects is communicated. Special cases are numerically calculated with the aid of an electronic analogue computer. (Author)</p>	<p>61-10511 I. Glass--Processing I. Deeg, E.</p> <p>j51448</p> <p>Office of Technical Services (Materials--Ceramics, TT, v. 5, no. 8)</p>	
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Brekhovskich, S. M. SYNTHESIS AND PROPERTIES OF SEVERAL NEW GLASSES CONTAINING OXIDES OF BISMUTH, CADMIUM, BARIUM AND LEAD (Synthese und Eigenschaften Einiger Neuer Wismut-, Cadmium-, Barium- und Bleioxyd-Haltiger Gläser). [1960] [17]p. 12 refs. Order from SLA m1\$2.40, ph\$3.30	61-10513 1. Glass--Materials 1. Brekhovskich, S. M.
Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. II, p. 437-442.  This study deals with results of investigations of glasses of the $\text{Bi}_2\text{O}_3\text{-PbO-SiO}_2$ system, and the remarkable possibility of obtaining glasses having a density of approximately 8 grams per cubic centi- meter in this system is discussed. (Author)	151450  Office of Technical Services

Wargin, W. W. and Karapetjan, G. O.  
ABSORPTION SPECTRA AND LUMINESCENCE OF  
Ce-containing GLASSES. 13p. (11 figs. omitted)  
22 refs.

Order from SLA \$1.60

62-14243

Trans. of Glastech[ische] Ber[ichte] (West Germany)  
1959, v. 32, no. 11, p. 443-450.

DESCRIPTORS: \*Glass, \*Luminescence, Spectrographic analysis, \*Phosphorescent materials, \*Cerium, Phosphates, Silicates, Borates, Crystals, \*Absorption spectra.

The influence of glass composition, melting conditions and Ce-concentration on the absorption spectra, fluorescence and phosphorescence of Ce-glasses was studied. Specially pure raw materials were used in the batch. The absorption was measured on tear pieces 0.1-0.5 mm (Materials-Ceramica, TT, v. 9, no. 4) (over)

62-14243

I. Wargin, W. W.  
II. Karapetjan, G. O.

Office of Technical Services

Influence of the Chemical Composition of  
Glass on the Adhesion of Polymers, by M. S.  
Aslanowa, 10 pp.

GERMAN, per, Glastech Berichte, Vol XXXII,  
No 11, 1959, pp 459-463.

Sci  
Jul 62  
Vol 4, No 12

ATB-87M440  
ATS-716-CJ  
203,544

Porai-Koshits, E. A.

THE SUBMICROSCOPIC STRUCTURE OF SEVERAL COMPLEX GLASSES (Submikroskopische Struktur einiger Komplexer Gläser). [1962] [33]p. (foreign text included) 56 refs.

Order from SLA \$3.60

62-18131

Trans. of Glastechn[ische] Ber[ichte].(West Germany) 1959, v. 32, no. 11, p. 450-459.

DESCRIPTORS: \*Glass, Microstructure, \*Porous glass, Heat treatment, Particles, Light, Reflection, Sodium compounds, Boron compounds, Silicates, Microanalysis.

A long discussion between the representatives of the "Crystallite" theory and those of the "network" theory led to the concept of the "Polymeric Crystallite" structure of single component glasses. The problem of the physical order in single component glasses was replaced by the problem of the chemical order in complex glasses. (Materials--Ceramics, TT, v. 9, no. 3) (over)

62-18131

I. Title: Vycor  
I. Porai-Koshits, E. A.

Office of Technical Services

Special Forms of Glass Melting Furnaces, by  
H. Wickert.

GERMAN, per, Glastechnische Berichte,  
Vol XXXIII, No 5, 1959, pp 189-197.

CSIRO

Sci - Engr  
Oct 61.

171, 352

RE

Schumacher, Leo and Schwiete, Hans-Ernst.  
CONTRIBUTION TO THE STUDY OF ALKALI AT-  
TACK ON FIREPOLISHED GLASS SURFACES  
(Beitrag zum Laugenangriff auf Feuerpolierte  
Glasoberflächen). [1962] [23]p. (foreign text included)  
10 refs.  
Order from SLA \$2.60

62-14490

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 1, p. 1-7.

DESCRIPTORS: \*Glass, \*Surfaces, Gravimetric  
analysis, Sodium compounds, Hydroxides, Corrosion,  
Reagents.

These studies are concerned with the alkali attack on  
glass surfaces. This is carried out by weighing the  
test samples periodically and observing by the micro-  
scope. The microscopic studies confirm the assump-  
tion that the appearance of alkali attack closely re-  
(Materials--Ceramics, TT, v. 8, no. 4) (over)

62-14490

I. Schumacher, L.  
II. Schwiete, H.-E.

Office of Technical Services

Jagdt, Reinhard.

INVESTIGATIONS OF RELAXATION PHENOMENA  
IN ALKALI-SILICATE GLASSES (Untersuchungen  
von Relaxationserscheinungen an Alkali-Silikat-  
Gläsern). Extract from thesis, Friedrich Schiller U.,  
1958. [1961] [30]p. 27 refs.

Order from SLA mi\$2.60, ph\$4.80 61-10696

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 1, p. 10-19.

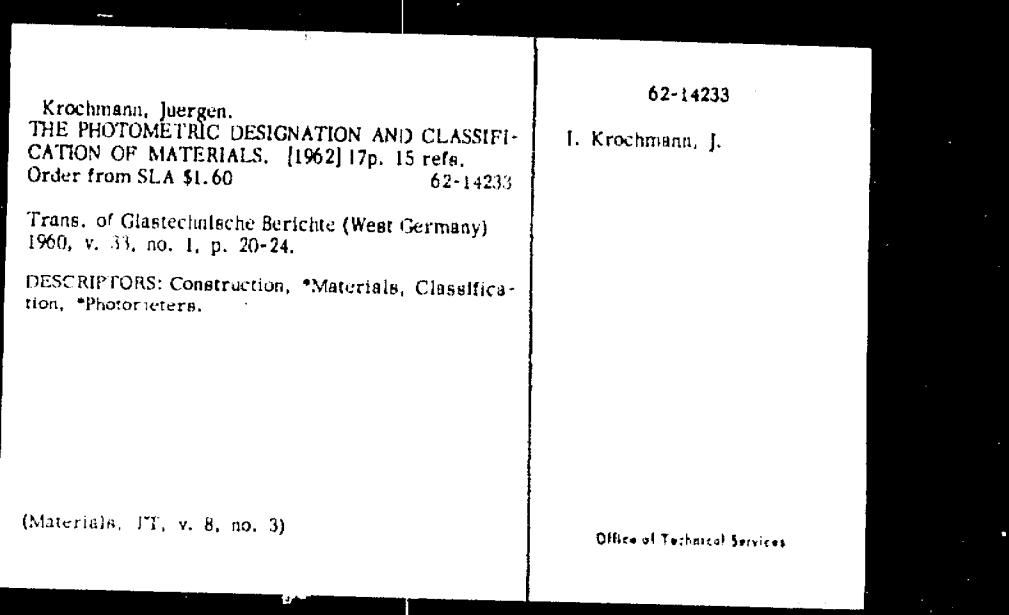
Measurements are made of the temperature dependence of the internal friction and of the elastic modulus of alkali-silicate glasses at temperatures between -180°C. and the point of transformation. The simple alkali silicates show two pronounced maxima of damping, whereas the mixed alkali silicates show only one clear maximum, which, however, is enormously raised. Level and temperature position of the maxima depend on the alkali content. The course of the elastic modulus is likewise determined by the alkali concentration of the glasses. (Materials--Ceramics, TI, v. 3, no. 7)

61-10696

1. Glass--Temperature factors
2. Glass--Viscosity
3. Glass--internal friction
- I. Jagdt, R.
- II. Friedrich Schiller U.  
(East Germany)

151824

Office of Technical Services



Banerjee, Bhupati Kumar.  
THE STUDY OF IRON CONTAINING GLASSES USING  
X-RAYS (Untersuchung Eisenhaltiger Gläser mit  
Röntgenstrahlen). [1962] [9]p. (foreign text included)  
9 refs.

Order from SLA \$1.10

62-16135

Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1960, v. 33, no. 2, p. 45-47.

DESCRIPTORS: \*Glass, \*Iron, X-ray diffraction analysis,  
Alkali metal compounds, Borates, Microstructure.

Several interesting results from a study of iron containing glasses using X-ray diffraction photographs are given. Studied were the alkali borate glasses and devitrified test samples. The X-ray study could give no proof for the assumption that, in addition to the various states possible of the iron in the glass, colloidal iron (Materials--Ceramics, TT, v. 9, no. 1) (over)

62-16135

1. Banerjee, B. K.

Office of Technical Services

DENSITY CHANGE OF LEAD GLASS THROUGH  
HEAT TREATMENT [Dichteanderung von Bleiglas  
durch Wärmebehandlung]. [1961] [20]. (21 refs.  
omitted).  
Order from SLA m\$2.40, ph\$3.30 61-10695

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33 [no. 2] p. 47-52.

Glass of composition 57% SiO<sub>2</sub>, 30% PbO, 8% K<sub>2</sub>O,  
4% Na<sub>2</sub>O, and 1% R<sub>2</sub>O<sub>3</sub> was subjected to heat treatment  
and the volume changes were recorded. Results showed  
that the change in volume of glass was based on transi-  
tions from one energy level to another in the glass  
structure by the addition of sufficient activation energy,  
e.g., an increase of thermal motion.

(Materials--Ceramics, TR, v. 5, no. 11)

1. Glass--Temperature  
factors  
2. Glass--Physical properties  
1. Kishii, T.

158915

Office of Technical Services

Polishing of Glass, by E. Bruche, K. Peter.

GERMAN, per, Glastechnische Berichte, 1960,  
pp 37-45.

CSIRO

Sci - Engr  
Oct 61

171, 626

SLA - 62-14232

Infrared Investigations of Vitreous and  
Crystalline Specimens in the  $\text{KNO}_3\text{-Ca}(\text{NO}_3)_2$   
System, by O. Borgen, K. Grjotheim, S. Urnes,  
8 pp.

GERMAN, per, Glastechnische Berichte, Vol XXXIII,  
No 2, 1960, pp 52-55.

SLA 60-18163

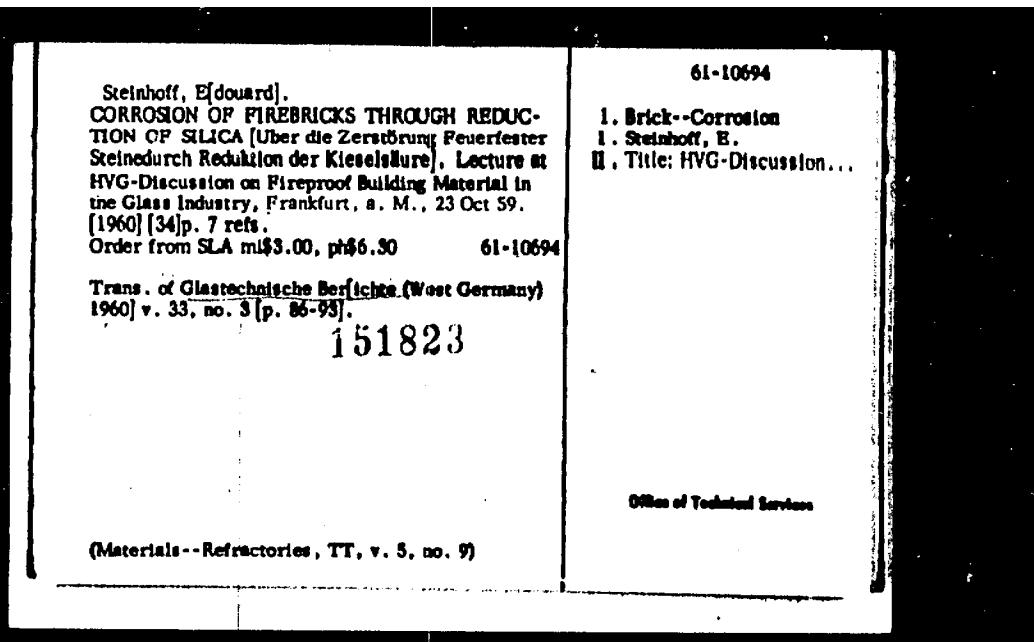
196,884

Sci

May 62

Properties of Fireclay Tank Blocks, by U. Ehrcke,  
EUROPEAN, per, Glastechnische Berichte, Vol 33,  
1960, pp 73-86.  
NTC-71-16203-11B

Jan 72



<p>Konopicky, Kamilio and Rouschka, Gerald. AN INVESTIGATION ON THE BEHAVIOR OF DIFFERENT QUALITIES OF REFRACTORY BRICK IN THE ARCH OF A SODIUM SILICATE TANK (Untersuchung des Verhaltens verschiedener Steinqualitäten im Gewölbe einer Wasserglaswanne). [Paper presented] at the HVG Colloquium on Refractory Materials in the Glass Industry, Frankfurt a.M., 23 Oct 59. [28p] 6refs Order from SLA \$2.60</p> <p>Trans. of <i>Glastechnische Berichte</i> (West Germany) 1960, v. 33, no. 3, p. 93-101.</p> <p>(Materials--Refractories, TT, v. 12, no. 3)</p>	<p>TT-64-16593</p> <p>I. Konopicky, K. II. Rouschka, G. III. Title: HVG Colloquium...</p> <p>TT-64-16593</p> <p>Office of Technical Services</p>	
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The Physical and Chemical Processes Involved in  
the Leaching of Glass Surfaces by Water, by  
L. Zagar, A. Schillmoeller, 16 pp.

GERMAN, per, *Glastechnische Berichte*, Vol XXXIII,  
No 4, 1960, pp 109-116. 9080941

SLA TT-64-14047 (28 JP)

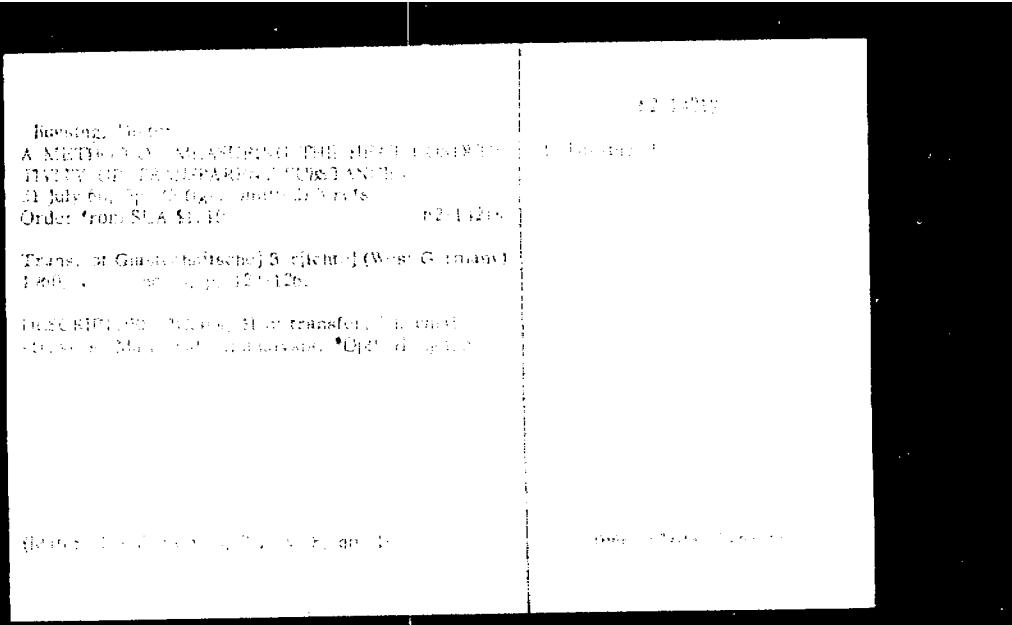
AERE Tr-867

Harwell

170, 201

Sci - Chem  
Oct 61

<p>Löffler, Johannes. INFLUENCE OF DEVITRIFICATION ON THE HOMOGENEITY OF FOURCAULT GLASS. 25 July 60, Sp. (10 figs. omitted) 5 refs. Order from SLA \$1.10</p> <p>Trans. of Glästechn[ische] Ber[ichte] (West Germany) 1960, v. 33, no. 4, p. 117-120.</p> <p>DESCRIPTORS: *Glass, Production, Drawing (Machine processing), Crystals, Crystallization.</p> <p>(Materials--Ceramics, TT, v. 8, no. 9)</p>	<p>62-14217</p> <p>1. Title: Foucault machines 1. Löffler, J.</p> <p>62-14217</p> <p>Office of Technical Services</p>
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<p>Trier, Wolfgang. PHOTOGRAPHING FLAMES (Fotografieren von Flammen). Enlarged Version of Lecture at Symposium on Glass Technology (no. 33) Hamburg, 17 Mar 59. [1961] [17]p. 3 refs. Order from SLA m1\$2.40, p1\$3.30</p> <p>Trans. of Glastechnische Berichte (West Germany) 1960, v. 33, no. 4, p. 127-132.</p> <p>Flames in glass furnaces can be photographed with relatively simple aids. When working rapidly it is sufficient to have a protective screen for the camera. Color films produce more contrasty pictures than black-and-white films, especially when a light blue filter is used. The exposure times ought to be as brief as possible. Rapidly streaming flames, such as oil flames, require exposures of 1/1000 second and less in order to prevent blurring due to movement. The lens opening should be selected in accordance with the nature and the brightness of the flame. (Author) (Materials--Ceramics, TT, v. 5, no. 10)</p>	<p>61-10693</p> <p>I. Flames--Photographic analysis 2. Glass--Production I. Trier, W. II. Title: Symposium...</p> <p>101606</p> <p>Office of Technical Services</p>
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Skalla, Norbert.

PROPERTIES AND BEHAVIOR OF BASIC CHECKER  
BRICK IN GLASS FURNACES (Über Eigenschaften und  
Verhalten Basischer Gittersteine in Glasöfen). Lecture  
at Conference on Refractory Building Materials in the  
Glass Industry, Frankfurt, a. M., 23 Oct 59. [1961]  
[17]p. 25 refs.

Order from SLA mi\$2.40, ph\$3.30 61-10692

Trans. of *Glastechnische Berichte* (West Germany)  
1960, v. 33 [no. 5] p. 169-173.

(Materials--Refractories, TT, v. 5, no. 9)

61-10692

I. Brick--Properties  
I. Skalla, N.  
II. Title: Conference...

J 51822

Office of Technical Services

On the Behavior of Magnesite Brick Which are Low  
in Iron Content, in the Checker Chambers of  
Regenerative Glass Melting Furnaces, by W. Baumgart.  
EUROPEAN, per, Glastechnische Berichte, Vol 33,  
1960, pp 173-180.

NTC-71-16238-11B

INSDCC/T 45-45-

Jan 72

Influence of Bank Block Cooling on the Temperature  
Inside the Blocks. Measuring Results, by  
R. Meister.

EUROPEAN, per, Glastechnische Berichte, Vol 33,  
1960, pp 182-186.  
NTC-71-16242-11B

Jan 72

Hegemann, Fredrich and Osterried, Otto.  
THE DETERMINATION OF SODIUM AND POTASSIUM IN GLASSES WITH THE ZEISS FILTER FLAME PHOTOMETER (Die Bestimmung von Natrium und Kalium in Gläsern mit dem Zeiss'schen Filterflammenphotometer). [1961] [19]p. (7 tables omitted) 19 refs.  
Order from SLA mil\$2.40, pb\$3.30 61-10691

Trans. of Glazotechnische Berichte (West Germany)  
1960, v. 33, no. 6, p. 201-206.

A procedure is given for the use of the PF 5 flame photometer in the determination of sodium and potassium in glasses with a propane-air flame as source of excitation. With the aid of this apparatus, the sodium and potassium contents can be ascertained rapidly and with sufficient accuracy, even when the concentration of interfering ions is not reproduced in the calibration solutions. (Authors)

(Materials--Ceramics, TT, v. 5, no. 1)

61-10691

1. Sodium--Determination
  2. Potassium--Determination
  3. Glass--Chemical analysis
  4. Photometers--Applications
- I. Hegemann, F.  
II. Osterried, O.

151821

Office of Technical Services

<p>Lengyel, Bela, Dobos, Sandor, and Till, Ferenc. METHOD OF DETERMINING THE RATE OF SOLUTION OF GLASSES BY USING A FLAME PHOTOMETER OF HIGH SENSITIVITY. 26 Aug 60, 13p. (12 figs. omitted) 28 refs. Order from SLA \$1.60</p> <p>Trans. of Glastech[ische] Ber[ichte] [West Germany] 1960, v. 33, no. 6, p. 206-213.</p> <p>DESCRIPTORS: *Glass, Solubility, Determination, *Flames, *Spectrophotometers, Photometers.</p> <p>(Materials--Ceramics, TT, v. 8, no. 4)</p>	<p>62-14216</p> <p>I. Lengyel, B. II. Dobos, S. III. Till, F.</p> <p>62-14216</p> <p>Office of Technical Services</p>	
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<p>Prins, Walter. ON THE USE OF NEOPHAN GLASS TO IMPROVE THE ACCURACY OF THE VOLHARD METHOD OF TITRATING SILVER (Einsatz von Neophanglasbrillen zur Verbesserung der Genauigkeit der Volhard'schen Silbertitrationsmethode). [12p] (foreign text included) Srefs Order from SLA \$1.60 Trans. of <u>Glastechn[ische] Ber[ichte]</u> (West Germany) 1960, v. 33, no. 6, p. 224-227.  (Chemistry--Analytical, TT, v. 12, no. 4)</p>	<p>TT-64-16530 L. Prinz, W.</p>	
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Arrangement for Measuring High Viscosities of  
Glasses with Great Deformation Under Constant Stress,  
by H.J. Oel.  
GERMAN, per, Glastechnische Berichte, Vol 33, No 6,  
1960, pp 219-224.  
NTC 69-11066-11B

Sci/Chem MHT  
July 69

387-358

The Structural Pattern of Glass in the Course of  
Its Development, by K. Kuehne.  
GERMAN, per, Glastechnische Berichte, Vol 33, No 7,  
1960, pp 241-245.  
NTC 69-11065-11B

Sci/Chem/HAT  
July 69

387-357

Kröger, Carl and Stratmann, Jürgen.

THE DETERMINATION BY DIFFERENTIAL THERMAL ANALYSIS OF RESIDUAL AMOUNTS OF QUARTZ IN EXHAUSTED SILICATE BATCHES (Die Differential-thermoanalytische Bestimmung von Restquarzmengen in Abregelten Silikatgemengen). [1961] [10p. 11 refs.

Order from SLA m\$1.80, ph\$1.80 61-10690

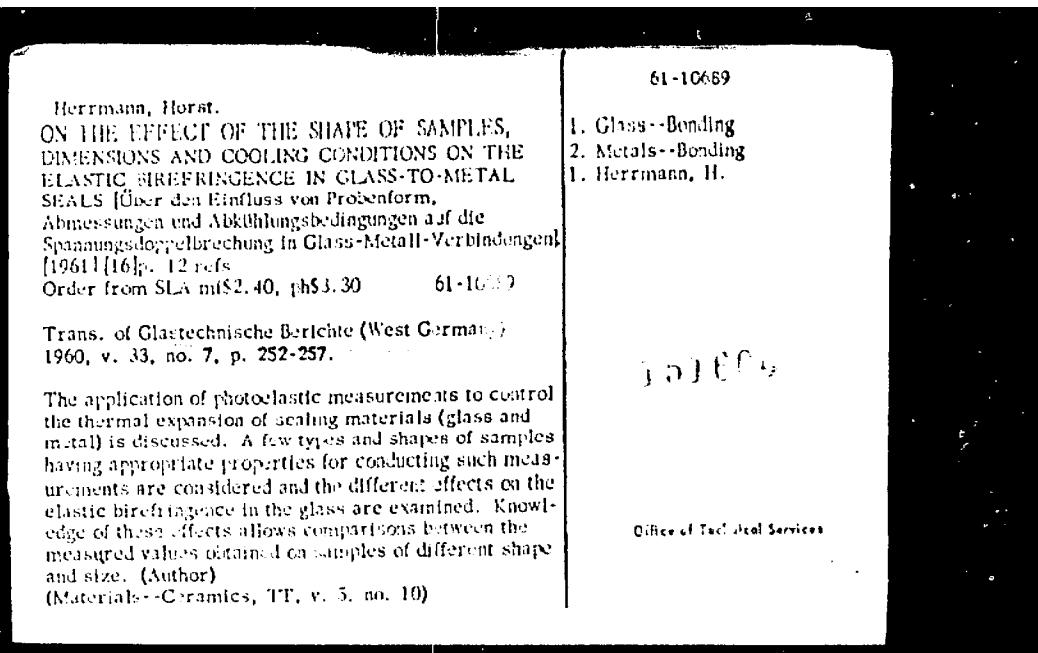
Trans. of Glastechnische Berichte (West Germany) 1960, v. 33, no. 7, p. 250-252.

The amounts of residual quartz which remain when silicate-quartz mixtures are tempered at 500°C were determined with the aid of differential thermal analysis and the time dependence of the quartz dissolution was compared to the dissolving velocity of the quartz (determined by X-ray methods) in the eutectic silicate-quartz mixture. At temperatures in excess of the quartz-tridymite reaction, the residual amounts of quartz correspond to the velocity of transformation. (Materially-Ceramics, TT, v. 5, no. 10) (over)

61-10690

- I. Quartz--Determination  
I. Kröger, C  
II. Stratmann, J.

151600  
Office of Technical Services



Delsing, Werner.

A NEW CHROMIUM-FREE, PLATEABLE Fe-Ni  
ALLOY AS A SEALING ALLOY FOR LEAD GLASS.  
9 Sep 60, 6p. (10 figs. omitted) 3 refs.  
Order from SLA \$1.10

62-14219

Trans. of Glastechn[ische] Ber[ichte] (West Germany)  
1960, v. 33, no. 7, p. 257-261.

DESCRIPTORS: \*Glass, \*Iron alloys, \*Nickel alloys,  
Plating, Seals, \*Electron tubes.

Sealing alloys, free from chromium, capable of being  
faultlessly electroplated are used for the glass-metal  
envelopes of microwave tubes of soft glass. The new  
Fe-Ni-Mn alloy (47/48/5) satisfies these requirements  
and its expansion coefficient is closer to that of the  
commonly used lead glass than the chromium-free  
Fe-Ni alloys used hitherto, (Author)  
(Materials--Ceramics, TT, v. 8, no. 10)

62-14219

I. Delsing, W.

Office of Technical Services

<p>Löffler, Johannes. REACTION OF FIRECLAY WITH A LIMITED AMOUNT OF GLASS MELT (Reaktion von Schamotte mit einer Begrenzten Menge Glasschmelze). [1961] [9]p. (foreign text included) 4 refs. Order from SLA \$1.10</p> <p>Trans. of Glasstechnische Berichte (West Germany) 1960, v. 33, no. 8, p. 281-283.</p> <p>DESCRIPTORS: *Brick, *Glass, Chemical reactions.</p> <p>When a fireclay body reacts with a limited amount of stagnant glass, the glass is locally impoverished in alkali, and the stiriae originating there exhibit the char- acteristic aluminous layers as well as those im- poverished in alkali, i.e. enriched in SiO<sub>2</sub>. This can be demonstrated in the glass from a cavity in a floater. The threads from such a hollow space normally have an aluminous core and an envelope of which the SiO<sub>2</sub> content is increased by 0.5 to 1%. (Author) (Materials--Ceramics, TT, v. 6, no. 1)</p>	<p>61-14727</p> <p>1. Title: Fireclay 1. Löffler, J.</p> <p>161749</p> <p>Office of Technical Services</p>
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<p>Eyber, Gerhard. THERMODYNAMIC OBSERVATIONS ON CORROSION PROCESSES IN GLASS TANKS (Thermodynamische Betrachtung über Korrosionsvorgänge in Glasmenschäden). [Paper] presented to the Glass Technology Convention (no. 33) Hamburg, 17 Mar 59. [8p] (foreign text included) 5refs Order from SLA \$1.10</p> <p>Trans. of <u>Glastechnische Berichte</u> (West Germany) 1960, v. 33, no. 4, p. 245-255.</p> <p>(Materials--Ceramics, TT, v. 12, no. 4)</p>	<p>TT-64-16526</p> <p>I. Eyber, G. II. Title: Glass ...</p> <p>TT-64-16526</p> <p>Office of Technical Services</p>
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Borneit, Joachim. THE MEDICAL SIGNIFICANCE OF HEAT RADIATION IN GLASS AND IRON PLANTS. 30 Nov 60 119 pp. 20 reis. Order from SLA \$1.60	62-14220	I. Borneit, J.
Trans. of Glastechische Berichte] (West Germany) 1960, v. 35, no. 4, p. 296-303		
DESCRIPTION: *Thermal radiation, *Foundries, Refineries, *Iron, *Glass, *Industrial medicine.		
In steel and glass plants, the heat radiation and the heat insulating conditions were determined at the work areas. Blast furnace smelters and iron shear workers were more exposed to rays than hollow and rod glass makers; these in turn exceeded foundry and refinery workers who work in the open under the action of the sun. Clinical findings showed that working in heat for many years produced in many cases (Biological Sciences--Medical Specialties, TT, v. 3, no. 9)	(over)	Office of Technical Services

Deeg, Emil.  
A SIMPLE METHOD FOR TESTING INTERNAL STRESSES OCCURRING IN NONTRANSPARENT GLASSES AND PLASTICS (Ein Einfaches Verfahren zur Spannungsprüfung in Undurchsichtigen Gläsern und Kunststoffen). Extract from address by Adolph Dietzel at Symposium on Glass Technology (no. 33) Hamburg, 18 Mrz 59. [1961] [5 p. (foreign text included)]. Order from SLA m\$1.80, ph\$1.80 61-10688

Trans. of Glastechnische Berichte (West Germany) 1960, v. 33, no. 9, p. 331-332.

A description is given of an arrangement of infrared radiators and receivers which is suitable for photoelastic investigations. Stresses in translucent and dark-colored glasses can be rendered visible with the aid of a lens converter which is sensitive in the infrared spectral range.

(Materials--Ceramics, TT, v. 5, no. 10)

61-10688

1. Glass--Stresses
2. Plastics--Stresses
3. Title: Photoelastic method
- I. Deeg, E.
- II. Dietzel, A.
- III. Title: Symposium...

101605

Office of Technical Services

Gellmann, Wilhelm and Tolg, Gunther.  
THE DETERMINATION OF THE SULFATE CON-  
TENT. Pt. 2 of Contribution to Microsilicate Analysis  
[1961] 17p. (4 tables, 2 figs. 2 footnotes omitted).  
Order from SLA m1\$2.40, ph3\$.30 61-14469

Trans. of Glastechnische Berichte (West Germany),  
1960, v. 33, no. 9, p. 332-338.

After digesting the silicate with hydrochloric and per-  
chloric acids, the sulfate is reduced to H<sub>2</sub>S by treat-  
ing it with a suitable reducing agent. The H<sub>2</sub>S is then  
absorbed in a sodium hydroxide solution and deter-  
mined by volumetric analysis. This method can be  
used in the range from 1 to 1000 µg SO<sub>4</sub> and, with sam-  
ples weighing between 1 and 200 mg, 0.05 to 0.001%  
SO<sub>4</sub> can be detected. The relative standard deviation of  
this method is dependent upon the total quantity being  
determined and lies between 1 and 3%. (Author)

(Chemistry--Analytical, TT, v. 5, no. 12)

61-14469

1. Sulfates--Determination
2. Glass-Chemical analysis
- I. Gellmann, W.
- II. Tolg, G.
- III. Title: Contribution...

151879

Office of Technical Services

Knapp, Oscar.

CALCULATION OF THE VISCOSITY OF ALKALI  
AND ALKALI-LIME GLASSES FROM THEIR COM-  
POSITION [Berechnung der Zähigkeit von Alkali- und  
Alkalikalkgläsern aus ihrer Zusammensetzung].  
[1961] [5]p. 2 refs.

Order from SLA m\$1.80, pb\$1.80 61-10687

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 9, p. 338-339.  
Pub. in greater detail in Hungarian in Eptébenyag,  
(Hungary) 1959, v. 11, p. 393-396.

(Materials--Ceramics, TT, v. 5, no. 9)

61-10687

I. Glass--Viscosity  
1. Knapp, O.

151820

Office of Technical Services

Konopicky, Kamillo and Wohleben, Karl.  
STUDIES ON THE TEMPERATURE DEPENDENCE OF  
THE TORSIONAL MODULUS OF FIRECLAY BRICKS  
(Untersuchungen zum Gang des Torsionsmoduls von  
Schamottesteinen mit der Temperatur). [1961] [20]p.  
32 refs.  
Order from SLA mif\$2.40, ph\$3.30

61-10686

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 10, p. 357-363.

The temperature dependence of such elastic constants as  
the elastic and torsional moduli has been studied for  
fireclay glass-tank bricks of different contents of alu-  
minum. The measurements obtained by torsional, bend-  
ing, and dynamic methods and tests are compared with  
the aim of establishing whether the size of the test piece  
affects the results of measurement and what effect the  
amount of load has on the course of the torsional modu-  
lus as a function of the temperature. Even at room tem-  
perature the static method of measurement produces  
(Mat. Engg. Refractories, TT, v. 5, no. 10) (over)

61-10686

1. Bricks--Temperature  
factors  
I. Konopicky, K.  
II. Wohleben, K.

151603

Office of Technical Services

Theoretical Investigation of the Thermal Stresses  
in Tank Blocks During Tempering, by G. Sonntag.  
EUROPEAN, per, Glastechnische Berichte, Vol 33,  
1960, pp 363-369.  
NTC-71-16204-11B

Jan 72

Fischer, Joseph and Kropp, Rudolf.  
FLAME SPECTROMETRY AS A PROCESS IN MODERN CHEMICAL ANALYSIS. 13 Dec 60 (d) (3) (b) (5)(c)  
(omitted) (i) refs.  
Order from SLA \$1.60

62-14234

Trans. of Glastechnische Berichte] (West Germany)  
1960, v. 33, no. 10, p. 380-387.

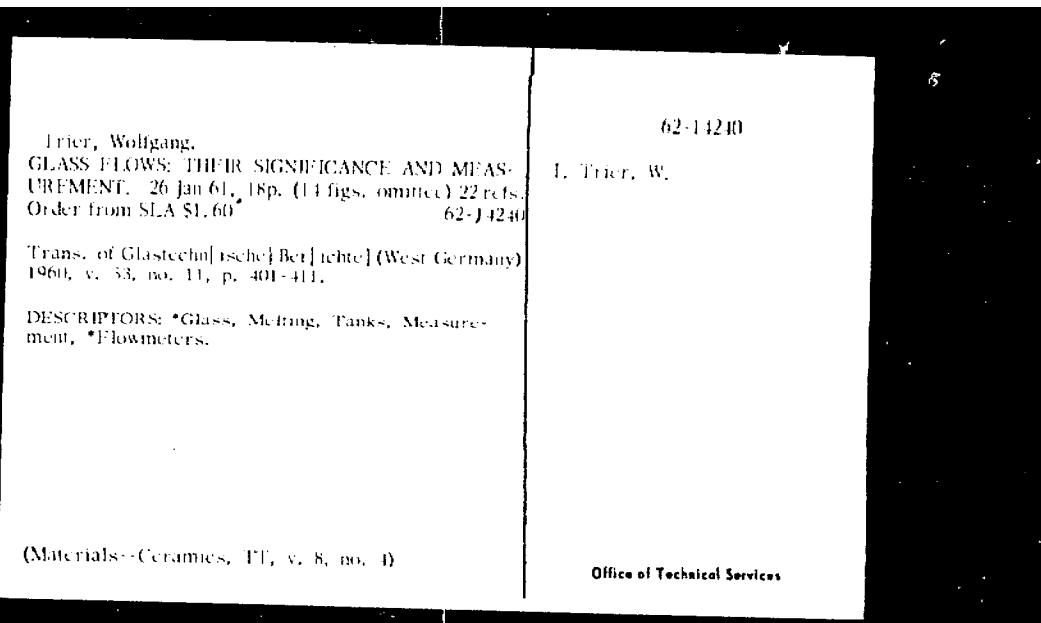
DESCRIPTORS: \*Chemical analysis, \*Flames, Alkali earths, Chemical elements, Ionization, Spectrographic data.

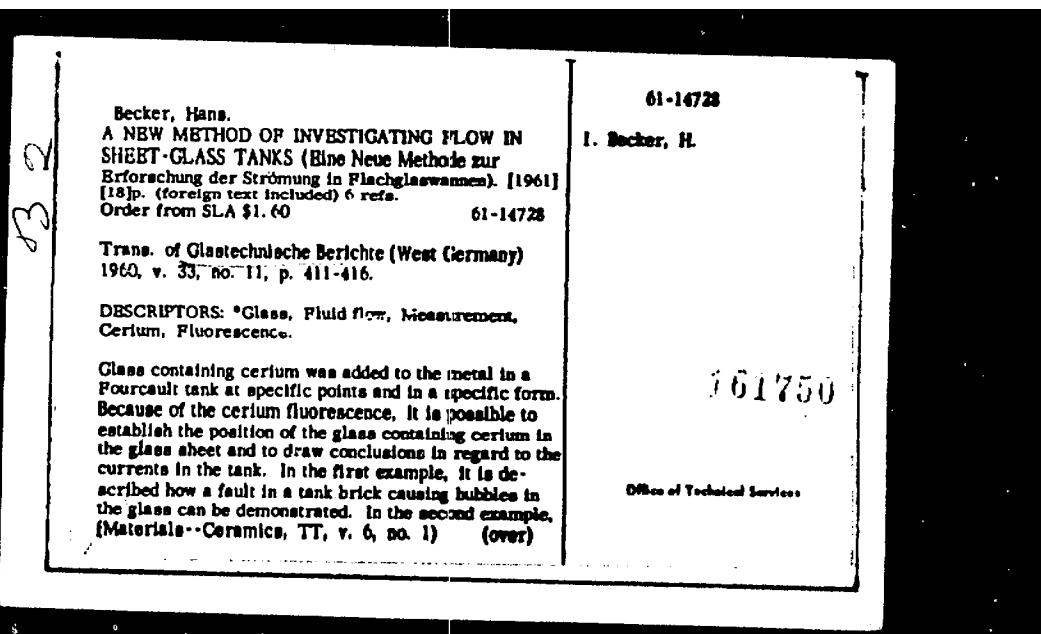
(Chemistry--Analytical, ET, v. 8, no. 9)

62-14234

I. Fischer, J.  
II. Kropp, R.

Office of Technical Services





Unger, Leopold.

THE USE OF RADIOACTIVE ISOTOPE FOR FLOW INVESTIGATIONS IN GLASS MELTING TROUGHS  
(Anwendung Radioaktiver Isotope zu Strömungsuntersuchungen in Glasschmelzwannen). Lecture at:  
Glastechnical Convention (no. 34) Berlin, 4 May 60.  
[1963] [17]p. (foreign text included) 5 refs.  
Order from SLA \$1.60

63-14066

I. Unger, L.

Trans. of Glastechnische Ber[ichte] (West Germany)  
1960, v. 33, no. 11, p. 416-421.

DESCRIPTORS: \*Glass, \*Radioactive isotopes, Melting,  
Fluid flow, Test equipment, Industrial equipment.

Flow investigations on glass melting troughs with radioactive substances are described. The advantages of this procedure consist in that the demonstration of the radioactive material is very sensitive, the measure-  
(Materials--Ceramics, TT, v. 10, no. 5) (over)

63-14066

Office of Technical Services

<p>Jeben-Marwedel, Hans. MATERIAL TRANSPORT DUE TO FORMATION OF NEW BOUNDARY SURFACES AND DOMAINS ON THE SURFACE OF VISCOUS MEDIA (MODEL LIQUID: LACQUER) (Materialtransport über die Neubildung von Grenzflächen und Parzellen an der Oberfläche Zähflüssiger Medien). Modified and shortened version of a lecture from Glass Technology Meeting (no. 34) Berlin, 3 May 60. [1963] [19p] (foreign text included) 16refs Order from SLA \$1.60</p> <p>Trans. of Glastechn[ische] Ber[ichte] (West Germany) 1960, v. 33, no. 11, p. 421-425.</p> <p>DESCRIPTORS: *Glass, Surface properties, Models (Simulations), *Fluid flow, Shear stresses, Photographic analysis. (Materials--Ceramics, TT, v. 11, no. 3)</p>	<p>TT-63-20366</p> <p>I. Title: Flow visualization I. Jeben-Marwedel, H. II. Title: Glass...</p> <p>TT-63-20366</p> <p>(over)</p>	<p>Office of Technical Services</p>
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It was shown that the schlieren-eddy phenomenon occurs in all pairs of liquids which exhibit dynamic behavior. Therefore in principle, observations made on readily available materials can be applied to processes taking place in the difficultly accessible glass melt. Spontaneous boundary deformations and cell formation observed on layers of lacquer help to shape our views on material exchange problems, material transport, and cell formation on the surface of the melt. The details can be recorded photographically by adding pigments to the partners. The arrangement of layers near the surface is controlled primarily through increased boundary surfaces in the form of flow breaches caused by shear stresses (and secondarily through diffusion).  
(Author)

PB.

TT-63-20366

Glegerich, Wilhelm.  
THE TECHNOLOGICAL BASIS OF BOTTLE MANUFACTURING WITH FULLY AUTOMATIC MACHINES  
(Über Technische Grundlagen der Vollautomatischen Flaschenherstellung). [1961] [35 p. 11 refs.]  
Order from SLA \$3.60 61-14729

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 12, p. 441-449.

DESCRIPTORS: \*Containers, Manufacturing methods,  
\*Glass, Molding, Machines, Automatic.

The succession of the individual operations of production and the cooling of the glass during shaping are described. Use is made of simple mathematical relations. Accurate time registrations of the individual operations and many calorimetric measurements of the heat content in the individual production stages in a large number of fully automatic bottle machines can be so arranged and compared as to supply industrial factors and (Materials--Ceramics, TT, v. 6, no. 1) (over)

61-14729

I. Glegerich, W.

Office of Technical Services

161751

Trier, Wolfgang.

TEMPERATURE DISTRIBUTION AND HEAT FLOW  
IN GLASS IN THE GATHERING MOLD OF HOLLOW  
GLASS MACHINES. 28 Feb 61, 12p. (12 figs. omitted)  
9 refs.

Order from SLA \$1.60

62-14222

Trans. of Glastechnische Berichte (West Germany)  
1960, v. 33, no. 12, p. 449-456.

DESCRIPTORS: \*Glass, Cooling, Heat transfer,  
Viscosity, Molding, Machines.

By means of a novel puncture method the cooling of a  
45 mm thick glass cylinder at about 1100°C in a  
modified gathering mold has been studied under condi-  
tions comparable to those existing in the machine.  
The viscosity distribution was measured in green  
glass and white glass and the temperature distribution  
(Materials--Ceramics, TT, v. 8, no. 10) (over)

62-14222

1. Trier, W.

Office of Technical Services

Klemm, Kerner and Vollenmann, Harold.  
EL-CTRON MICROSCOPE STUDIES ON THE STRUCTURE OF GLASS-CRYSTALLINE MATERIALS (Elektronenmikroskopische Untersuchungen über den Aufbau Glasig-Kristalliner Massen). [1963] [25p] (foreign text included) 11refs  
Order from SLA \$2.60

TT-(4-14074)

Trans. of Glasterchn[ische] Berichte] (West Germany)  
19(1), v. 24, no. 3, p. 152-159.

(Materials--Ceramics, TT, v. 12, no. 1)

TT-64-14074  
I. Klemm, H.  
II. Vollenmann, H.

Office of Technical Services

The Behavior of Silica Bricks in Glass Tank Furnaces  
for Soda-Lime Glass, by K. Konopicky, I. Patzak.  
GERMAN, per, Glastechnische Berichte, Vol 34, No 1,  
1961, pp 1-15.  
NTC 69-11117-11B

Sci/Mat  
July 69

387-362

Several Studies of Silica Bricks From the Crowns  
of Glass Tanks at Different Working Temperatures,  
by H. F. Reich.  
EUROPEAN, per, Glastechnische Berichte, Vol 34, 1961,  
pp 15-27.  
NTC-71-16237-11B

Jan 72

On the Glass Phase in Fusion Cast Tank Blocks, by  
H. E. Schwiete, 24 p.  
GERMAN, per, Glastechnische Berichte, Vol XXXIV,  
No 1, 1961, pp 30-37.  
SLA TT 66-10674

Sci-M&M  
Jun 66

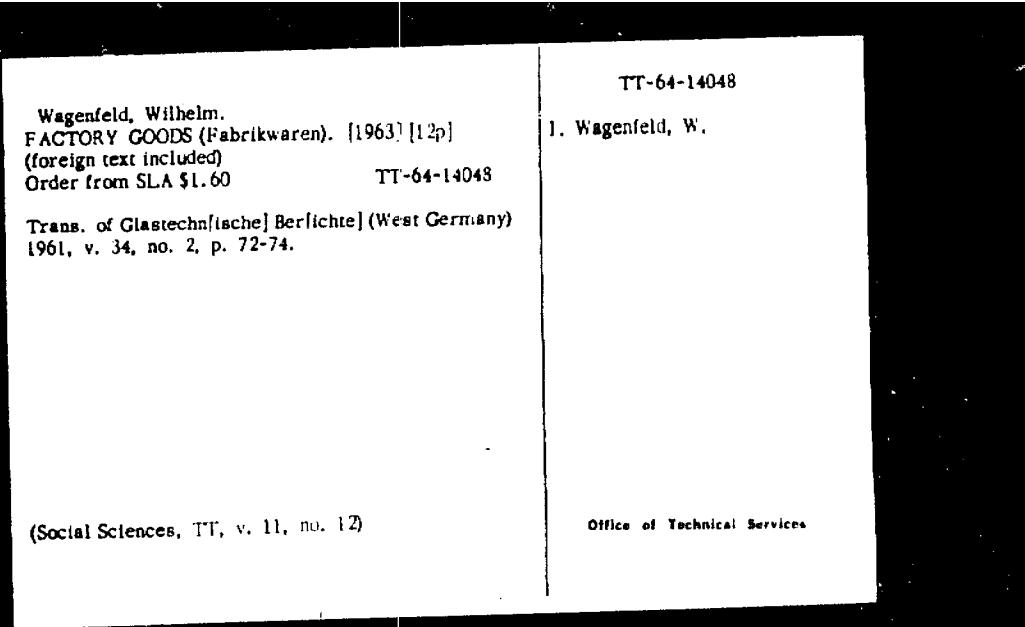
304,127

<p>Dietzel, A. and Coenen, M. TRIVALENT COBALT IN GLASSES WITH HIGH ALKALI CONTENT. [1963]. BGIRA/TR/63/11; no. 544. Order from BGIRA                                   BGIRA-544</p> <p>Trans. of <u>Glastechnische Berichte</u> (West Germany) 1961, v. 34, no. 2, p. 49-55.</p> <p>DESCRIPTORS: *Cobalt, *Valence, *Glass, *Alkali metal compounds, Alkali metals.</p> <p>(Materials--Ceramic , TT, v. 10, no. 8)</p>	<p>63-17860</p> <p>I. Dietzel, A. II. Coenen, M. III. BGIRA/TR/63/11 IV. BGIRA-544 V. British Glass Industry Research Association</p> <p>Office of Technical Services</p>	
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The Indentation Microhardness of Some Silicate Glasses  
and Its Atomic Interpretation, by A. Petzold,  
F.G. Wiemann.  
GERMAN, per, Glastechnische Berichte, Vol 34, No 2,  
1961, pp 56-71.  
EFC 69-11093-11B

Sci/CIA  
July 69

387-360



Schuster, Erich and Reitmayer, Franz.  
THE CHANGE IN THE REFRACTIVE INDEX OF  
GLASSES PRODUCED BY UNIDIMENSIONAL COM-  
PRESSIVE OR TENSILE STRESSES (Die Änderung  
der Lichtbrechung von Gläsern bei eindimensionaler  
Druck- bzw. Zug-Belastung).  
[1964] [13p] (foreign text included) 3refs  
Order from SLA \$1.60

TT-64-10547

TT-64-10547  
I. Schuster, E.  
II. Reitmayer, F.

Trans. of Glastechnische Berichte (West Germany)  
1961, v. 34, no. 3, p. 130-133

(Physics--Optics, TT, v. 12, no. 2)

Office of Technical Services

Studies on Glass Surfaces Using Radioactive  
Phosphorus, by Ernst Haier, Peter Hausmann,  
21 pp.

GERMAN, per, Glastechnische Berichte,  
Vol CCCIV, No 3, 1961, pp 146-152.

SLA 61-20843

Sci  
Mar 62  
Vol VII, No 3

188, 671

AEC (SC-T-722462) DETERMINATION OF THE WATER  
CONTENT OF GLASSES BY NUCLEAR MAGNETIC RESONANCE  
AND COMPARISON OF THE RESULTS WITH MEASUREMENTS  
OF THE INFRARED OH BANDS. Meyer, Friedrich; Spalthoff,  
Werner. Translated for Sandia Labs., Albuquerque, N. Mex.,  
from Glastech. Ber.; 34: 184-91 (1961). 23p. Dep. NTIS.

chemistry (analytical); translations 207

MN-4 P NSA

Rapid Indicator Radiation Pyrometer for Temperature  
Measurement Between 300 and 900° C., by N. Neuroth.  
EUROPEAN, per, Glastechnische Berichte, Vol 34,  
1961, pp 197-200.  
NTC-71-16240-14B

Jan 72

